IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Reissue Application of:

BILL L. DAVIS and JESSE S. WILLIAMSON

For Reissue of U. S. Patent 5,630,363

Issued May 20, 1997 Serial No. 08/515,097 Group Art Unit

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Examiner: S. Funk

J. Hilten

Serial No.:

09/315,796

For:

COMBINED LITHOGRAPHIC/ FLEXOGRAPHIC PRINTING APPARATUS AND PROCESS

THIRD SUPPLEMENTAL AMENDMENT UNDER 37 C.F.R. §1.111

The Honorable Commissioner of Patents and Trademarks

Washington, D.C. 20231

Reissue applicants would like to add some additional claims directed to VIER 2800

embodiment (e.g., '363 col. 7, lines 44-48).

IN THE CLAIMS

Please amend claims 91, 94, 97 and 100 as follows:

Method of combining offset lithographic and flexographic printing in a continuous 91. in-line sheet-fed process, combining the steps of:

providing a plurality of successive offset lithographic sheet-fed printing (a) stations for printing images on cut paper sheets;

providing one or more flexographic printing stations prior to at least one of said offset lithographic stations for printing a flexographic image on each of said cut paper sheets. each of said flexographic printing stations comprising:

a blanket cylinder, said blanket cylinder including a flexographic plate (1) having an image thereon for transferring a flexographic image to said blanket cylinder;

an anilox roller for applying a flexographic image to said flexographic **(2)** plate on said blanket cylinder; and

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(corelided)

(3) an impression cylinder in image-transferring relationship with said blanket cylinder for transferring said flexographic image from said blanket cylinder to said substrate; at least one of said succeeding printing stations being a lithographic printing station subsequent to said flexographic printing stations, and using offset lithography for printing additional images on top of said flexographic image on each sheet; and

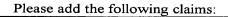
- 94. Method of combining offset lithographic and flexographic printing in a continuous in-line sheet-fed process, combining the steps of:
- (a) providing a plurality of successive offset lithographic sheet-fed printing stations for printing images on one or both sides of each of a succession of cut paper sheets;
- (b) providing one or more flexographic stations prior to at least one of said offset lithographic stations for printing a flexographic image on one side of each of said cut paper sheets, each flexographic printing station comprising:
- (1) a blanket cylinder, said blanket cylinder including a flexographic plate having an image thereon for transferring a flexographic image to said blanket cylinder;
- (2) an anilox roller for applying a flexographic image to said flexographic plate on said blanket cylinder; and
- (3) an impression cylinder in image-transferring relationship with said blanket cylinder for transferring said flexographic image from said blanket cylinder to said substract;
- (c) providing at least one succeeding printing station subsequent to said flexographic printing stations, and being a lithographic printing station using offset lithography for printing or or more images on the reverse side of the side on which said flexographic image was printed; and
- (d) providing a high velocity air dryer associated with the impression cylinder of each flexographic printing station for drying the flexographic image printed on each sheet.
- 97. Apparatus for a combined lithographic and flexographic printing process for printing a multicolored image on a succession of sheets comprising:
- (a) a plurality of successive printing stations for printing an image on a succession of sheets in a continuous in-line process, said printing stations including both lithographic and one or more flexographic printing station;
 - (b) each of said flexographic printing stations having:



- (1) <u>a blanket cylinder, said blanket cylinder including a flexographic plate</u>
 having an image thereon for transferring a flexographic image to said blanket cylinder;
- (2) an anilox roller for applying a flexographic to said flexographic plate on said blanket cylinder; and
- (3) an impression cylinder in an image-transfer relationship with said blanket cylinder for transferring said flexographic color image from said blanket cylinder to each of the succession of sheets;

at least one of said succeeding of printing stations being a lithographic printing stations subsequent to said flexographic printing stations, and using offset lithography for printing additional images on top of said flexographic image; and

- (c) a high velocity air dryer associated with the impression cylinder of each flexographic printing stations for quickly drying the flexographic image printed on each sheet.
- 100. Apparatus for a combined lithographic and flexographic printing process for printing multicolored images on a succession of sheets, comprising:
- (a) a plurality of successive printing stations for printing images on one or both sides of a succession of sheets in a continuous in-line process said printing stations including both lithographic and one or more flexographic printing stations:
 - (b) each of said flexographic printing stations having;
- (1) a blanket cylinder, said blanket cylinder including a flexographic plate having an image thereon for transferring a flexographic image to said cylinder;
- (2) an anilox roller for applying a flexographic image to said flexographic plate on said plate cylinder; and
- (3) an impression cylinder in an image transferring relationship with said blanket cylinder for transferring said flexographic image from said blanket cylinder to each of the succession of sheets:
- (c) at least one of said succeeding printing stations being an offset lithographic printing station subsequent to said flexographic printing station, and using offset lithographic for printing one or more additional images on the reverse side of the side on which said flexographic image was printed; and
- (d) a high velocity air dryer associated with the impression cylinder of each flexographic printing station for drying the flexographic image printed on each sheet.



- 103. Method of combining offset lithographic and flexographic printing in a single pass printing process, combining the steps of:
- (a) providing a plurality of successive offset lithographic printing stations for printing images on a substrate;
- (b) providing one or more flexographic printing stations prior to at least one of said offset lithographic printing stations for printing one or more flexographic images on said substrate, each of said flexographic printing stations comprising:
- (1) a blanket cylinder, said blanket cylinder including a flexographic plate having an image thereon for transferring the flexographic images to said blanket cylinder;
- (2) an anilox roller for applying a flexographic image to said flexographic plate on said blanket cylinder; and
- (3) an impression cylinder in image-transferring relationship with said blanket cylinder for transferring said flexographic images from said blanket cylinder to said substrate; and
- (c) providing a dryer associated with the impression cylinder of each flexographic printing station for drying the flexographic images printed on said substrate.
 - 104. The method of Claim 103 wherein the printing process is continuous in-line.
 - 105. The method of Claim 103 wherein the substrate comprises cut paper sheets.
 - 106. The method of Claim 103 wherein the substrate comprises a continuous web.
- 107. The method of Claim 103 wherein the printing of the flexographic image is accomplished by the anilox roller being mounted in an auxiliary retractable coater unit adapted to engage said flexographic plate on said blanket.
- 108. The method of Claim 103 wherein the printing of the flexographic image is accomplished by the anilox roller being mounted in a dedicated flexographic printing station.
- 109. Method of combining offset lithographic and flexographic printing in a continuous in-line printing process, combining the steps of:
- (a) providing a plurality of successive offset lithographic sheet-fed printing stations for printing images on said substrate;



- (b) providing one or more flexographic stations prior to at least one of said offset

 lithographic printing stations for printing one or more flexographic images on said substrate, each

 flexographic printing station comprising:
- (1) a blanket cylinder, said blanket cylinder including a flexographic plate having an image thereon for transferring said flexographic images to said blanket cylinder;
- (2) an anilox roller for applying said flexographic images to said flexographic plate on said blanket cylinder; and
- (3) an impression cylinder in image-transferring relationship with said blanket cylinder for transferring said flexographic images from said blanket cylinder to said substrate;
- (c) after said flexographic printing stations, one or more succeeding offset lithographic printing stations for printing one or more images on the reverse side of the side on which said flexographic images was printed; and
- (d) providing a dryer associated with the impression cylinder of each flexographic printing station for drying the flexographic images printed on said substrate.
 - 110. The method of Claim 109 wherein the substrate comprises cut paper sheets.
 - 111. The method of Claim 103 wherein the substrate comprises a continuous web.
- 112. The method of Claim 109 wherein the printing of one or more flexographic images is accomplished by the anilox roller being mounted in an auxiliary retractable coater unit adapted to engage said flexographic plate on said blanket cylinder.
- 113. The method of Claim 109 wherein the printing of one or more flexographic images is accomplished by the anilox roller being mounted in a dedicated flexographic printing station.
- 114. Apparatus for a combined offset lithographic and flexographic single pass printing process for printing one or more images on a substrate, comprising:
- (a) a plurality of successive offset lithographic printing stations for printing images on a substrate;
- (b) one or more flexographic printing stations prior to at least one of said offset lithographic printing stations for printing one or more flexographic images on said substrate, each of said flexographic printing stations having:
- (1) a blanket cylinder, said blanket cylinder including a flexographic plate having an image thereon for transferring one or more flexographic images to said blanket cylinder;

- (2) an anilox roller for applying a flexographic to said flexographic plate on said blanket cylinder; and
- (3) an impression cylinder in an image-transfer relationship with said blanket cylinder for transferring said flexographic images from said blanket cylinder to said substrate; and
- (c) a dryer associated with the impression cylinder of each flexographic printing stations for quickly drying the flexographic images printed on said substrate.
 - 115. The method of Claim 114wherein the printing process is continuous in-line.
 - 116. The method of Claim 114 wherein the substrate comprises cut paper sheets.
- 117. The apparatus of Claim 114wherein the printing of one or more flexographic images is accomplished by the anilox roller being mounted in an auxiliary retractable coater unit adapted to engage said flexographic plate on said blanket cylinder.
- 118. The apparatus of Claim 114 where in the printing of flexographic images is accomplished by the anilox roller being mounted in a dedicated flexographic printing station.
- 119. Apparatus for a combined lithographic and flexographic continuous in-line printing process for printing one or more images on substrates comprising:
- (a) a plurality of successive offset lithographic printing stations for printing images on a substrate;
- (b) one or more flexographic printing stations prior to at least one of said offset lithographic printing stations for printing one or more flexographic images on said substrate, each of said flexographic printing stations having;
- (1) a blanket cylinder, said blanket cylinder including a flexographic plate having an image thereon for transferring one or more flexographic images to said cylinder;
- (2) an anilox roller for applying said flexographic images to said flexographic plate on said plate cylinder; and
- (3) an impression cylinder in an image transferring relationship with said blanket cylinder for transferring said flexographic images from said blanket cylinder to said substrate;
- (c) at least one of said succeeding printing stations being a lithographic printing station using offset lithographic for printing one or more additional images on the reverse side of the substrate on which said flexographic image was printed; and

- (d) <u>dryer associated with the impression cylinder of each flexographic printing</u>
 station for drying the flexographic images printed on each sheet.
- 120. The apparatus of Claim 119 wherein the printing process is intended for a succession of cut paper sheets.
 - 121. The apparatus of Claim 119 wherein the substrate is a continuous web.
- 122. The apparatus of Claim 119 wherein the printing of one or more flexographic images is accomplished by the anilox roller being mounted in an auxiliary retractable coater unit adapted to engage said flexographic plate on said blanket cylinder.
- 123. The apparatus of Claim 119 wherein the printing of one or more flexographic images is accomplished by the anilox roller being mounted in a dedicated flexographic printing station.
- 124. Method of combining offset lithographic and flexographic printing in a single pass printing process, combining the steps of:
- (a) providing a plurality of offset lithographic printing stations for printing one or more images on a substrate;
- (b) providing one or more flexographic printing stations prior to at least one of said offset lithographic printing stations for printing one or more flexographic images on said substrate; and
- (c) providing a dryer associated with each flexographic printing station for drying said flexographic images printed on said substrate.
- 125. Method of combining offset lithographic and flexographic printing in a continuous in-line printing process, combing the steps of:
- (a) providing a plurality of offset lithographic printing stations for printing one or more images on a substrate;
- (b) providing one or more flexographic printing stations prior to at least one of said offset lithographic printing stations for printing one or more flexographic images on said substrate;
- (c) after said flexographic printing stations, providing one or more succeeding printing offset lithographic printing stations for printing one or more images on the reverse side of the side on which said flexographic images were printed; and
- (d) providing a dryer associated with each flexographic printing station for drying the flexographic images printed on said substrate.

- 126. The method of Claim 124 wherein the printing process is continuous in-line.
- 127. The method of Claim 124 or 125 wherein the substrate comprises cut paper sheets.
- 128. The method of Claim 124 or 125 wherein the substrate comprises a continuous web.
- 129. The method of Claims 124 or 125 wherein the printing of the flexographic image is accomplished by an anilox roller being mounted in an auxiliary retractable coater unit.
- 130. The method of Claim 124 or 125 wherein the printing of the flexographic image is accomplished by an anilox roller being mounted in a dedicated flexographic printing station.
- 131. The method of Claim 124 or 125 wherein the flexographic images are printed using a water based liquid vehicle containing suspended particles.
 - 132. The method of Claim 131 wherein said suspended particles are uniform in size.
 - 133. The method of Claim 131 wherein said suspended particles are nonuniform in size.
 - 134. The method of Claim 131 wherein said suspended particles are metallic particles.
- 135. The method of Claim 124 or 125 wherein the flexographic images are printed using an opaque color ink.
- 136. The method of Claim 135 wherein the flexographic images are printed using a white color opaque ink.
- 137. The method of Claim 135 wherein the flexographic images are printed with a liquid vehicle slurry containing an encapsulated essence.
- 138. The apparatus for a combined offset lithographic and flexographic single pass printing process for printing one or more images on a substrate, comprising:
- (a) a plurality of successive offset lithographic printing stations for printing images on a substrate;
- (b) one or more flexographic printing stations prior to at least one of said offset lithographic printing stations for printing one or more flexographic images on said substrate; and
- (c) a dryer associated with each flexographic printing station for drying said flexographic images printed on said substrate.
- 139. Apparatus for a combined offset lithographic and flexographic continuous in-line printing process, comprising:
- (a) a plurality of offset lithographic printing stations for printing one or more images on a substrate.

- (b) one or more flexographic printing stations prior to at least one of said offset

 lithographic printing stations for printing one or more flexographic images on said substrate;
- (c) one or more succeeding offset lithographic printing stations after said flexographic printing stations for printing one or more images on the reverse side of the side on which said flexographic images were printed; and
- (d) a dryer associated with each flexographic printing stations for drying the flexographic images printed on said substrate.
 - 140. The apparatus of Claim 138 wherein the printing process is continuous in-line.
 - 141. The apparatus of Claim 138 or 139 wherein the substrate comprises cut paper sheets.
 - 142. The apparatus of Claim 138 or 139 wherein the substrate ios a continuous web.
- 143. The apparatus of Claims 138 or 139 wherein the printing of the flexographic image is accomplished by an anilox roller being mounted in an auxiliary retractable coater unit.
- 144. The apparatus of Claim 138 or 139 wherein the printing of the flexographic image is accomplished by an anilox roller being mounted in a dedicated flexographic printing station.
- 145. The apparatus of Claim 138 or 139 wherein the flexographic images are printed using a water based liquid vehicle containing suspended particles.
 - 146. The apparatus of Claim 145 wherein said suspended particles are uniform in size.
 - 147. The apparatus of Claim 145 wherein said suspended particles are nonuniform in size.
 - 148. The apparatus of Claim 145 wherein said suspended particles are metallic particles.
- 149. The apparatus of Claim 138 or 139 wherein the flexographic images are printed using an opaque color ink.
- 150. The apparatus of Claim 149 wherein the flexographic images are printed using a white color opaque ink.
- 151. The apparatus of Claim 149 wherein the flexographic images are printed with a liquid vehicle slurry containing an encapsulated essence.

REMARKS

Method and apparatus claims 103-146 are added so as to eliminate any ambiguity that the scope of their previously added claims (91-102) is limited to a high velocity air form of drying. In the situation of a mechanical limitation, reissue applicants are entitled to claim a genus with the disclosure of one operable embodiment falling therewithin. *Utler v. Hiranga*, 845 F.2d 993, 998, 6 USPQ2d 1709, 1714 (Fed. Cir. 1988). Claims 103-108, 114-118, 124, 126 and 138-140 also do not expressly require that the press be "continuous in-line", i.e., that it necessarily be capable of perfecting.

Respectfully submitted,

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ATTORNEYS FOR REISSUE APPLICANTS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Reiss	ue Application of: BILL L. DAVIS and JESSE S. WILLIAMSON	§ § 8		
For Reissue of U. S. Patent 5,630,363			Group Art	Unit: 2854
TOT TOUBBUT O	Issued May 20, 1997	§		
	Serial No. 08/515,097	§		
Filing Date:	May 20, 1999	§ § §	Examiner:	S. Funk J. Hilten
Serial No.:	09/315,796	\$ \$ \$		
For:	COMBINED LITHOGRAPHIC/ FLEXOGRAPHIC PRINTING APPARATUS AND PROCESS	§ §		

THIRD SUPPLEMENTAL AMENDMENT UNDER 37 CFR §1.111 TRANSMITTAL LETTER	paper #	· 45)
Commissioner of Patents and Trademarks n, D.C. 20231	CHNOLOGY	MAR 12
dment has the following fees:	CENTER 2800	2001

Honorable Commissioner of Patents and Trademarks TO:

Washington, D.C. 20231

SIR:

This amendment has the following fees:

	No. PREVIOUSLY FILED AND PAID FOR	AFTER THIS 3RD SUPPL. AMENDMENT	FEE PER CLAIM	EXTRA	FEE DUE
Reissue Independent Claims Over 20 in '363 Patent, Fee Code 109	18	26	\$80.00	8	\$ 640.00
Reissue Claims in Excess of 20 and over in '363 Patent, Code 110	61	110	\$18.00	49	\$ 882.00
Multiple Dependent, Code 104	2	14	\$270.00	12	\$3,240.00
					\$4,762.00

Please charge any additional fees or credit any overpayment to Deposit Account No. \boxtimes 06-0075 or to the Deposit Account No. 23-3189 of the law firm of Worsham Forsythe Wooldridge LLP.

A duplicate copy of this letter is attached.

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